

Claims

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is as follows:

1. In combination with a pair of spaced mounting bars, a roller turn roller comprising:

a continuous axle tube having opposed ends and defining a central axis of rotation,
a pair of axially spaced, tapered roller bearings on said axle tube spaced inwardly from respective ends thereof,
a roller shell supported by said bearings for rotation about said axis,
a pair of axially spaced retainers secured to said axle tube with said bearings disposed therebetween, each of said retainers engaging a corresponding bearing to pre-load the bearings to a desired clearance, and
a fastener extending across said mounting bars through said axle tube to mount the roller turn roller between the bars.

2. The combination as claimed in claim 1, wherein each of said ends of the axle tube project axially outwardly clear of the associated retainer, whereby the projecting ends of the axle tube are engageable with the mounting bars so that the tube receives any axial force that the bars may apply.

3. The combination as claimed in claim 1, wherein said roller shell has an internal, radially inwardly projecting shoulder between said roller bearings, and each of said roller bearings has an outer race component in engagement with said shoulder and an inner race component in engagement with the associated retainer, whereby the pre-load on each of the bearings is applied to the bearing races and the continuous axle tube.

4. The combination as claimed in claim 1, further comprising mating threads on the end portions of said axle tube and corresponding retainers, whereby the retainers are tightened on the axle tube to pre-load the bearings.

5. In combination with a pair of spaced mounting bars, a roller turn roller comprising:

a continuous axle tube having opposed ends and defining a central axis of rotation,

a pair of axially spaced, tapered roller bearings on said axle tube spaced inwardly from respective ends thereof,

a roller shell supported by said bearings for rotation about said axis,

a pair of axially spaced retainers threaded on respective ends of said axle tube with said bearings disposed therebetween, each of said retainers engaging a corresponding bearing to pre-load the bearings to a desired clearance,

each of said ends of the axle tube projecting axially outwardly clear of the associated retainer, and

a fastener extending across said mounting bars through said axle tube to mount the roller turn roller between the bars, whereby the projecting ends of the axle tube are engageable with the mounting bars so that the tube receives any axial force that the bars may apply.

6. In combination with a pair of spaced segment bars defining a turn in a power chain of an industrial conveyor, a roller turn roller comprising:

a continuous axle tube having opposed ends and defining a central axis of rotation,

a pair of axially spaced, tapered roller bearings on said axle tube spaced inwardly from the respective ends thereof,

a roller shell supported by said bearings for rotation about said axis,

a pair of axially spaced retainers secured to said axle tube with said bearings disposed therebetween, each of said retainers engaging a corresponding bearing to pre-load the bearings to a desired clearance,

each of said ends of the axle tube projecting axially outwardly clear of the associated retainer, and

a fastener extending across the segment bars through said axle tube to mount the roller turn roller between the bars, whereby the projecting ends of the axle tube are engageable with the segment bars so that the tube receives any axial force that the bars may apply.